

IN THE CLAIMS

Please cancel claims 1-8, 10-12, 24-25, 50-53, 56-58, and 71-80 without prejudice.

Please amend claims 9, 13, and 54 as follows below.

Please add new claims 81-96 that follow below.

MARKED UP CLAIMS

1 1-8. (Cancelled)

1 9. (Amended Once) ~~A The fiber optic module of claim 1~~  
2 ~~wherein comprising:~~  
3 a pull-actuator to disengage and withdraw the fiber optic  
4 module from a cage assembly, the pull-actuator includes  
5 a pull-tab,  
6 a shaft coupled to the pull tab at a first end, and  
7 an opening at a second end of the shaft to engage a  
8 first end of a pivot arm;  
9 and  
10 one or more electro-optic transducers to convert optical  
11 signals into electrical signals or electrical signals into  
12 optical signals.

1 10-12. (Cancelled)

1           13. (Amended Once) A ~~The~~ fiber optic module ~~of claim 1~~  
2 ~~further~~ comprising:  
3           a pull-actuator to disengage and withdraw the fiber optic  
4 module from a cage assembly;  
5           a pivot-arm actuator, pivotally coupled to the fiber  
6 optic module, to release the fiber optic module from the cage  
7 assembly when the pull-actuator is pulled; and  
8           one or more electro-optic transducers to convert optical  
9 signals into electrical signals or electrical signals into  
10 optical signals.

1           14. (Original) The fiber optic module of claim 13 wherein  
2 the pivot-arm actuator further includes,  
3           a pivoting pin to rotationally couple the pivot-arm  
4 actuator to the fiber optic module.

1           15. (Original) The fiber optic module of claim 13 wherein  
2 the pivot-arm actuator includes  
3           a first engaging end to engage to the cage assembly,  
4           a second engaging end to engage to the pull-  
5 actuator, and  
6           a shaft coupling to the first and second engaging  
7 ends.

1           16. (Original) The fiber optic module of claim 15 wherein

2           the first engaging end includes a keeper to engage the  
3 fiber optic module to the cage assembly.

1           17. (Original) The fiber optic module of claim 15 wherein  
2           the first engaging end includes a latch to engage the  
3 fiber optic module to the cage assembly.

1           18. (Original) The fiber optic module of claim 15 wherein  
2           the second engaging end includes a keeper to engage the  
3 pivot-arm actuator to the pull-actuator.

1           19. (Original) The fiber optic module of claim 15 wherein  
2           the second engaging end includes a latch to engage the  
3 pivot-arm actuator to the pull-actuator.

1           20. (Original) The fiber optic module of claim 15 wherein  
2           the second engaging end includes a ramped sliding surface  
3 to slide and cause the pivot-arm actuator to rotate when the  
4 pull-actuator is pulled.

1           21. (Original) The fiber optic module of claim 13 further  
2 comprising:  
3           a spring to cause the pivot-arm actuator to return to its  
4 initial position when the pulling force on the pull-actuator  
5 is removed.

1           22. (Original) The fiber optic module of claim 21 wherein

2 the spring is a leaf spring and part of the pivot-arm  
3 actuator.

1 23. (Original) The fiber optic module of claim 21 wherein  
2 the spring causes the pull-actuator to return to its  
3 initial position when the pulling force on the pull-actuator  
4 is removed.

1 24-53. (Cancelled)

1 54. (Amended Once) ~~A The fiber optic module of claim 50~~  
2 ~~further~~ comprising:  
3 means for converting optical signals into electrical  
4 signals or electrical signals into optical signals;  
5 means for disengaging the fiber optic module from a cage  
6 assembly by pulling a pull-actuator; and  
7 means for pivotally disengaging the fiber optic module  
8 from the a cage assembly when the pull-actuator is pulled.

1 55. (Original) The fiber optic module of claim 54 further  
2 comprising:  
3 means for coupling the pivotally disengaging means to the  
4 fiber optic module.

1 56-58. (Cancelled)

1 59. (Original) A fiber optic module comprising:

2           a nose receptacle including  
3               a fiber optic cable receptacle to receive one or  
4 more fiber optic cable plugs,  
5               a pull-actuator to release the fiber optic module  
6 from a cage assembly using a pull action;  
7               a pivot-arm actuator coupled to the pull-actuator,  
8 the pivot-arm actuator to pivot and release a keeper from a  
9 latch to release the fiber optic module in response to a pull  
10 action on the pull-actuator; and  
11               a printed circuit board including one or more  
12 electro-optic transducers to convert optical signals into  
13 electrical signals or electrical signals into optical signals.

1           60. (Original) The fiber optic module of claim 59  
2 wherein,  
3           the fiber optic module is a small form pluggable (SFP)  
4 fiber optic module and the cage assembly is a small form  
5 pluggable (SFP) cage assembly.

1           61. (Original) The fiber optic module of claim 59 further  
2 comprising:  
3           a housing to couple to the nose receptacle and cover the  
4 printed circuit board.

1           62. (Original) The fiber optic module of claim 61  
2 wherein,

3           the housing is shielded to protect the printed circuit  
4 board from electromagnetic interference.

1           63. (Original) The fiber optic module of claim 59  
2 wherein,  
3           the pull-actuator includes one or more grooves to  
4 slideably engage the nose receptacle.

1           64. (Original) The fiber optic module of claim 59  
2 wherein,  
3           the pull-actuator slides outward to release the fiber  
4 optic module from the cage assembly.

1           65. (Original) The fiber optic module of claim 59  
2 wherein,  
3           the pivot-arm-actuator includes  
4 a pivot pin rotationally coupled to the nose receptacle  
5 at first and second ends to allow the pivot-arm actuator to  
6 pivot.

1           66. (Original) The fiber optic module of claim 59 wherein  
2 the nose receptacle further includes  
3 a spring coupled to the pivot-arm-actuator at a first end  
4 and the nose receptacle at a second end, the spring to exert a  
5 force on the pivot-arm-actuator to exert a return force on the  
6 pull-actuator.

1           67. (Original) The fiber optic module of claim 59  
2 wherein,  
3           the pull-actuator includes  
4           an orientation indicator to indicate the fiber optic  
5 module which the pull-actuator releases.

1           68. (Original) The fiber optic module of claim 59  
2 wherein,  
3           the pull-actuator includes  
4           a pull-tab,  
5           a shaft coupled to the pull-tab at a first end, and  
6           a catch at a second end of the shaft.

1           69. (Original) The fiber optic module of claim 59  
2 wherein,  
3           the pull-actuator is located at a bottom side of the  
4 fiber optic module.

1           70. (Original) The fiber optic module of claim 59  
2 wherein,  
3           the nose receptacle further includes  
4           a grip to pull out on the fiber optic module.

1           71-80. (Cancelled)

1           81. (New) The fiber optic module of claim 9 wherein

2 the fiber optic module is a small form pluggable (SFP)  
3 fiber optic module and the cage assembly is a small form  
4 pluggable (SFP) cage assembly.

1 82. (New) The fiber optic module of claim 9 wherein  
2 the pull-actuator is activated to disengage and withdraw  
3 the fiber optic module by a single backward pull action.

1 83. (New) The fiber optic module of claim 9 wherein  
2 the pull-actuator further includes  
3 one or more grooves to slideably engage the fiber  
4 optic module.

1 84. (New) The fiber optic module of claim 9 wherein  
2 the fiber optic module includes one or more grooves to  
3 slideably engage the pull-actuator.

1 85. (New) The fiber optic module of claim 9 wherein  
2 the pull-actuator slides to disengage the fiber optic  
3 module from the cage assembly.

1 86. (New) The fiber optic module of claim 9 wherein  
2 the pull-actuator further includes,  
3 one or more end-stops to withdraw the fiber optic  
4 module as the pull-actuator is pulled.

1 87. (New) The fiber optic module of claim 9 wherein



2           the pull-actuator further includes  
3                   one or more end-stops to prevent the pull-actuator  
4   from becoming disengaged from the fiber optic module as it is  
5   pulled.

1           88. (New) The fiber optic module of claim 9 wherein  
2           the pull-actuator further includes  
3                   an orientation indicator to indicate the fiber optic  
4   module which the pull-actuator releases.

1           89. (New) The fiber optic module of claim 9 wherein  
2           the pull-actuator is formed of metal.

1           90. (New) The fiber optic module of claim 9 wherein  
2           the pull-actuator is formed of a plastic.

1           91. (New) The fiber optic module of claim 9 wherein  
2           the pull-actuator permits arranging multiple fiber optic  
3   modules in a belly-to-belly configuration without obstructing  
4   adjacent pull-actuators.

1           92. (New) The fiber optic module of claim 91 wherein  
2           with the belly-to-belly configuration, two pull-actuators  
3   are located in proximity to each other along a common surface  
4   between two fiber optic modules.

1           93. (New) The fiber optic module of claim 54 further  
2 comprising:  
3           means for slideably engaging the means for disengaging  
4 the fiber optic module.

1           94. (New) The fiber optic module of claim 54 wherein  
2 the means for disengaging also provides a means for  
3 withdrawing.

1           95. (New) The fiber optic module of claim 54 further  
2 comprising:  
3           means for withdrawing the fiber optic module.

1           96. (New) The fiber optic module of claim 54 further  
2 comprising:  
3           means for indicating the fiber optic module which the  
4 means for disengaging releases.